

ABSTRACT OF THE DISCLOSURE

METHOD AND SYSTEM FOR PROCESS GAS ENTRAINMENT AND MIXING IN A KILN SYSTEM

5 A method and system for mixing process gas flow by adding or injecting suitably-directed high momentum turbulent gas into dust-laden stratified process gas flow at approximately 850 to 1400 °C to entrain the process gas flow such that stratification is reduced and mixing of both gases and suspended solids is improved. The jet entrainment of the process gas flow by appropriate injection of gas serves to enhance the contact of reacting materials, such as residual fuel and available oxygen, and further serves to improve the completion of reactions, such as combustion of the fuel and the transfer of heat to the raw material/kiln feed. (Fig.1)